



Methyl Bromide Field Fumigation Trainer Notes

January 4, 2001

METHYL BROMIDE FUMIGATION

- For purpose of these regulations, field soil fumigation does not apply to:
 - Golf courses
 - Tree holes
 - Potting soil
 - Raised tarp fumigation and nursery fumigation < 1 ac.
 - Greenhouses & other similar structures



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Have everyone sign attendance sheet.

(Does everyone know where the restrooms are?)

Go over handouts.

Greenhouse is a greenhouse whether the sides are down or not

METHYL BROMIDE FUMIGATION OVERVIEW

- Worksite plan
- Notification requirements
- Buffer zones
- Fumigation methods
- Worker safety
- CEQA

WORKSITE PLAN

- Operator of property shall submit a worksite plan
- To the Commissioner (CAC)
- 7 days prior to submitting notice of intent (NOI)
- CAC shall retain the worksite plan for 1 year after expiration of permit



3CCR 6450

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WORKSITE PLAN

- Worksite Plan will include
 - Method of fumigation
 - Acreage (not to exceed 40 acres) and identification of each application block
 - Application rate
 - Notification procedures
 - Tarp repair response and removal plan
 - Description of any activities within buffer zones

PERMIT CONDITIONS

CAC shall include the following:

- Evaluation of local conditions and proposed worksite plan
- Size and duration of buffer zone
- Work hour restrictions
- Specific notification procedure
- Restrictions to address local conditions
- Tarp repair response and removal plan



NOTIFICATION REQUIREMENTS

- NOI to CAC 48 hours prior to application
- Notification of Property Operators within 300 feet from perimeter of Outer Buffer Zone that a permit to use MeBr near their property has been issued
- Notification to employees when buffer zones extend into other properties

3CCR 6450.1

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Notification to Property Operators refers to an initial notification and a later specific notification.

INITIAL NOTIFICATION

- After approval of worksite plan and at least 7 days prior to submitting NOI
- Include :
 - Chemical name
 - Name, address, and telephone number of operator of property and CAC
 - Earliest and latest dates the fumigation will start
 - How to request subsequent notification

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3CCR 6450.1(b)

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Definition of “Operator of the Property” from CCR600 Section: “
“Operator of the Property” means a person who owns the property and/or is legally entitled to possess or use the property through terms of a lease, rental contract, trust, or other management arrangement

3CCR Section 6420(c) states, “The permittee shall be responsible for compliance with all permit conditions.”

Since initial notification only has to contain the “earliest & latest dates that the fumigation will start,” the time period could be for a year.

No waivers are allowed on the 7 day requirement.

SPECIFIC NOTIFICATION

48 hours prior to fumigation (time specific):

- Provide to all requesting persons within 300 feet of outer buffer zone:
 - Date(s) and time(s) of fumigation
 - Buffer zone expiration

3CCR 6450.1(b)(2)

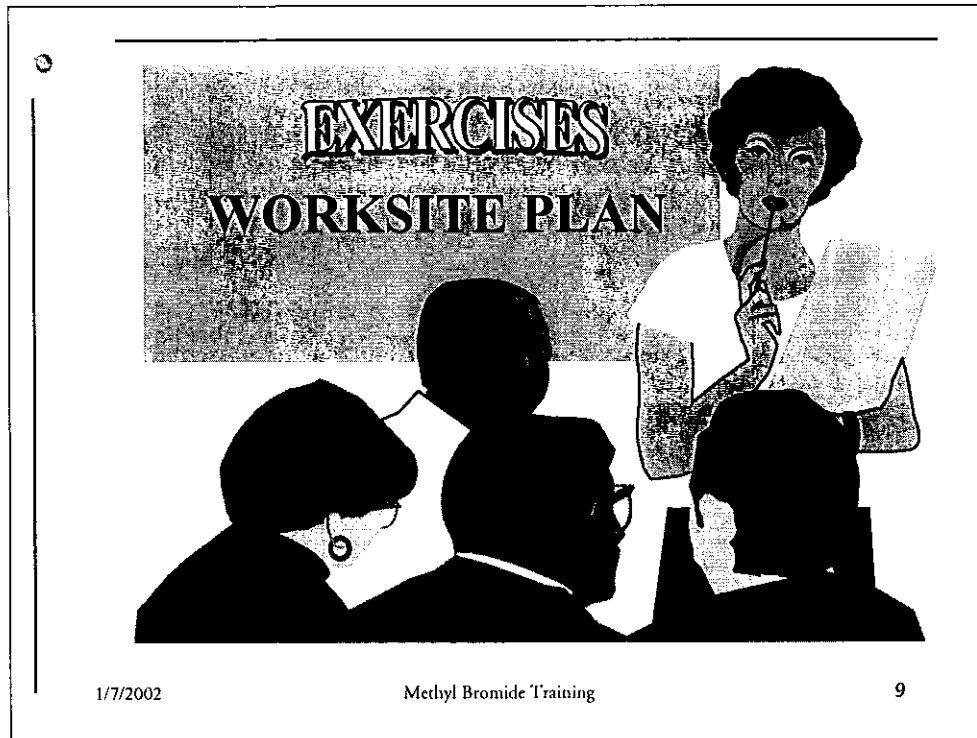
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If a property operator requests notification, but they do not operate property that is within 300 feet of the perimeter of the outer buffer zone, the permittee is not required to give them notice, (initial or specific).

The application shall not begin sooner than the noted time, nor later than 12 hours after.



Refer also to table 1 of Flowcharts, Figures, and Tables handout (Guidance Manual).

BUFFER ZONE DEFINITION

The area that surrounds a pesticide application block in which certain activities are restricted for a specified period of time to protect human health and safety from existing or potential adverse effects associated with a pesticide application

3CCR 6000

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Buffer zones are designed to protect people who are not involved in the application. In the case of MeBr field fumigation, buffer zones are calculated to assure that non-handlers will not be exposed to more than 210 parts per billion of MeBr in a 24 hour period.

Because definition will be in regulation, it was crafted so it could apply to any pesticide application not just methyl bromide.

BUFFER ZONES

GENERAL RULES

- Measured from edge of application block
- Restrictions begin at start of injection
- In effect at least 36 hours after completion of injection
- If school is within 300 ft of the perimeter of the outer buffer zone, the injection shall be completed 36 hrs prior to the start of a school in session

3CCR 6450.2(l)

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It is the responsibility of the operator of the property to be fumigated to assure all buffer zone distances are measured from the edge of the application block.

A school in session is defined as those times when students are attending scheduled classes.

School includes both public and private, but does not apply to day care facilities

after this slide , show diagram # 7

BUFFER ZONES TYPES

- Two types
 - **Inner**
 - Not less than 50 feet
 - Limited to transit and fumigation handling activities
 - **Outer**
 - Not less than 60 feet
 - Limited to transit, fumigation handling activities, and activities approved by CAC
 - Activity not to exceed 12 hours in 24 hours

3CCR 6450.2(d,e,f)

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There are two types of buffer zones for each application block...an inner and outer buffer zone.

The inner buffer zone must be at least 50 feet from the edge of the application block. No persons are allowed within the inner buffer zone except to transit and to perform fumigation handling activities.

The outer buffer zone must be at least 60 feet from the edge of the application block. No persons are allowed within the outer buffer zone except to transit, to perform fumigation handling and commissioner approved activities.

Commissioner approved activities may include: picking up mail, and feeding/watering animals_____

In no case can a person be within the outer buffer zone for more than 12 hours in a 24 hrs period

BUFFER ZONES

Inner buffer zone may extend into other property if:

- Agricultural property
- Written permission is received
- Buffer zone boundary is posted
- Workers notified

3CCR 6450.2(e)(3)

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The inner buffer zone may extend into an adjoining agricultural property if the adjoining property gives written permission and allows the operator of the property to be treated to post the inner buffer zone boundary on the adjoining property with signs. The signs must remain up while the buffer zone is in effect, and they must be visible from 25 feet. The signs must be posted at least every 200 feet, and they must contain the words:

“METHYL BROMIDE INNER BUFFER ZONE” and ‘KEEP OUT’
and ‘NO ENTRE’

BUFFER ZONES

Outer buffer zone may extend into other property:

- With permission from other property operator
- No occupied housing within buffer zone
- No schools, convalescent hospitals or sensitive sites on property
- Workers notified

3CCR 6450.2(f)(3)

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The outer buffer zone may extend into other property with permission from the operators of these properties. In no instances shall the outer buffer zone contain occupied residences or occupied onsite employee housing while the outer buffer zone is in effect. The outer buffer zone shall not extend into properties that contain schools, convalescent homes, hospitals, or other similar sites identified by the commissioner.

The outer buffer zone may extend across roads, highways, or similar means of travel or sites approved by the commissioner.

Examples of sites approved by the commissioner: day care facilities, and homes of chemically sensitive individuals.

Regarding worker notification..... The operator of the other property that the outer buffer zone extends into must notify all onsite employees, including those of a licensed pest control business or farm labor contractor, that a buffer zone(s) has been established on the property. The notice to employees must be given before employee's begin work, (on the day the buffer zone is in effect.)

Notification to farm labor contractor employees may be done by giving written notice to the farm labor contractor who shall then give the notice to the employee. Employee notification must include the date and time of the start of the fumigation and anticipated expiration of buffer zones

BUFFER ZONES

- Dependent on
 - Size of application block
 - Time & distance from nearby MeBr field fumigation
 - Application rate
 - Fumigation method
 - Emission ratio
 - Other factors

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You must consider several variables in order to calculate the size of buffer zones. We will discuss each of these variables in the following slides, and then we will show you how to use the information to calculate buffer zones.

The Methyl Bromide Field Fumigation Guidance Manual now replaces the old Methyl Bromide Field Fumigation Permit Conditions (ENF 94-019)

BUFFER ZONE APPLICATION BLOCK

- Field or portion of field treated in a 24 hour period
- Typically identified by visible indicators, maps or other tangible means
- Shall not exceed 40 acres

3CCR 6000/6450(d)

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The term “ Application block” means a field or portion of a field treated in a 24 hrs period that typically is identified by visible indicators, maps, or other tangible means. In the case of chloropicrin and methyl bromide field fumigation, an application block shall not exceed 40 acres.

BUFFER ZONE APPLICATION BLOCK

- Time and Distance From Other Fumigation
 - Off-gassing from fields in close proximity combines to increase the concentration of MeBr in the air near both locations
 - Classify proposed application blocks
 - Isolated Blocks
 - Non-Isolated Blocks

GUIDANCE MANUAL

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We also have to consider the proximity of the proposed fumigation site to other MeBr field fumigations. The closer two fumigations are in space and time, the more likely the off-gassing from both fields will combine to increase the concentration of MeBr in the air near both locations. Similarly, the further away two fumigations are in space and time, the less likely off-gassing from either will combine to increase the concentration of MeBr in the air near either location.

In order to take this factor into consideration when calculating buffer zones, proposed application blocks must be classified as isolated or non-isolated.

BUFFER ZONE APPLICATION BLOCK

Isolated Blocks

- Separated by a minimum of 1,300 feet
or
- Separated by at least 36 hrs from end
of injection to beginning of next
fumigation

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Isolated blocks must be separated by at least 1,300 feet. When application blocks are closer than 1,300 feet, they are still considered isolated if at least 36 hours have elapsed since the end of injection in the first block to the beginning of the injection in the next block

BUFFER ZONE APPLICATION BLOCK

Non-Isolated Blocks

- Closer than 1,300 feet away
and
- Less than 36 hrs from the end of
injection to beginning of next
fumigation

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Non-isolated blocks are closer than 1,300 feet from the edge of a previously fumigated block, **and** less than 36 hours has elapsed since the end of injection in the first block to the beginning of the injection in the next block.

BUFFER ZONE APPLICATION RATE

- Calculation
 - Pounds per acre of active ingredient in formulated product
- MeBr 57/43 at 360 # / acre
- Rate = $360 \times 57\%$ or $360 \times .57 = 205.2\# / \text{acre}$

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For the purpose of calculating the size of MeBr buffer zones, you need to know the application rate. The application rate is the pounds of active ingredient (MeBr) in the formulated product that will be applied per acre. For example, an applicator will be using 360 pounds of Tri-Con 57/43 per acre. Tri-Con 57/43 contains 57% methyl bromide. How much actual methyl bromide will be applied per acre?

BUFFER ZONE

EMISSION RATIO/RATE

- **Emission ratio:** rate of MeBr volatilized based on fumigation method and it's found in the guidance manual
- **Emission rate:** emission ratio X application rate

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The emission ratio indicates the relative rate of MeBr lost from each type of application method. We will cover fumigation methods in detail later in this presentation. Each fumigation method is assigned its own emission ratio, and the emission ratios are also listed in Table 1 in the Methyl Bromide Field Fumigation Guidance Manual

The emission rate is determined by multiplying the emission ratio by the application rate.

BUFFER ZONE TABLES

- Tables 2 & 3: Outer buffer zone
- Table 4: Inner buffer zone
- Table 5: Buffer zone duration

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The buffer zone distances are determined by applying the emission rate and the size of the application block (in acres) to tables 2, 3 & 4. Table 3 is only for tarped shallow broadcast applications of 10 acres or less and rates of 235 pounds per acre or less

Buffer zone duration is determined by the application rate and the size of the application block (in acres) to tables 5A,B, & C. All of these tables are found in the Methyl Bromide Field Fumigation Guidance Manual

FUMIGATION METHODS

GENERAL REQUIREMENTS

- Requirements include:
 - Purging of lines
 - Air fan dilution
 - Chisel modifications
 - Approved tarp
 - Tarp permeability factor: 5-8
 - Injection depth
 - Bury ends 4 inches

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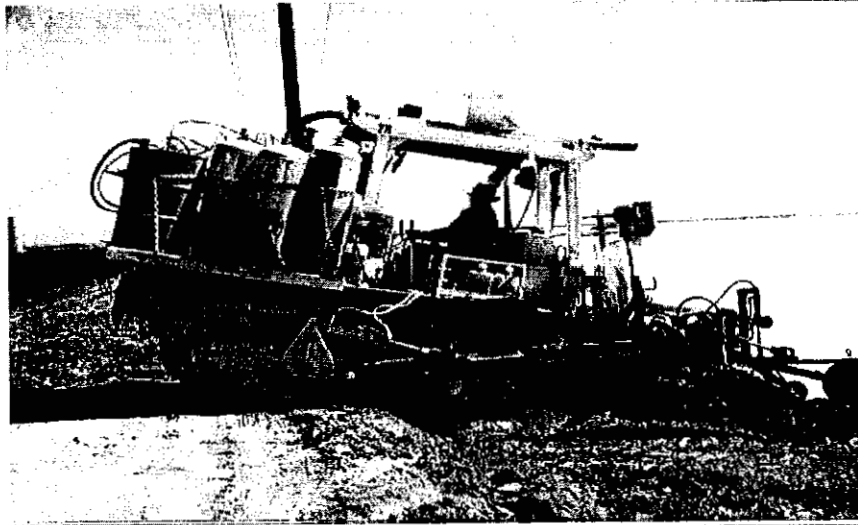
Equipment modifications designed to improve worker safety

Approved tarps on www.cdpr.ca.gov

Purging lines: both must be done before application

FUMIGATION METHODS

FUMIGATION LINE



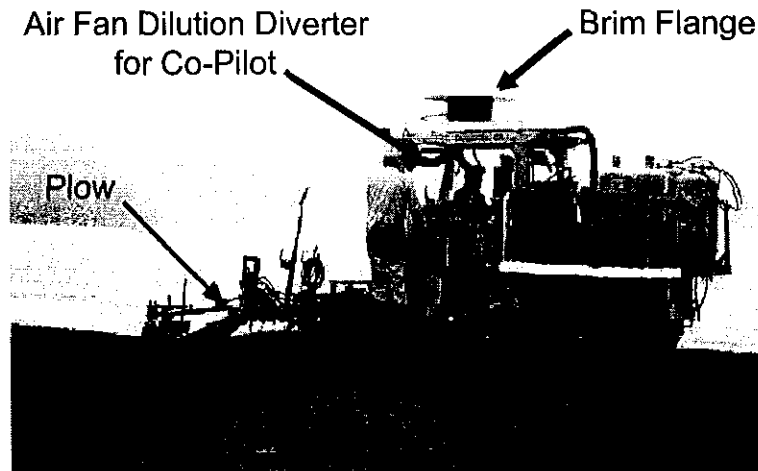
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When observing the application rig exit the rows, make sure the injectors have been turned off and purged. Do not get in the way of the applicator. Observe from distance

FUMIGATION METHODS AIR FAN DILUTION



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Application tractor must incorporate an air dilution fan system (ducted fan blower). Only applies to tractor used to apply methyl bromide.

Fan blower intake must be at least 126 inches from the ground.

Protective screen must be mounted at the exhaust end.

A diverter device made of flexible tubing, PVC pipe, Sheet metal, or similar durable materials must be attached to the underside of the protective screen under the fan. Tubing must have 4 inch inside diameter.

Inside diameter of air intake shall be 21 inches, surrounded by a flat metal ring measuring 11 inches out from the edge of the intake.

Total diameter of the air dilution fan system shall be 43 inches.

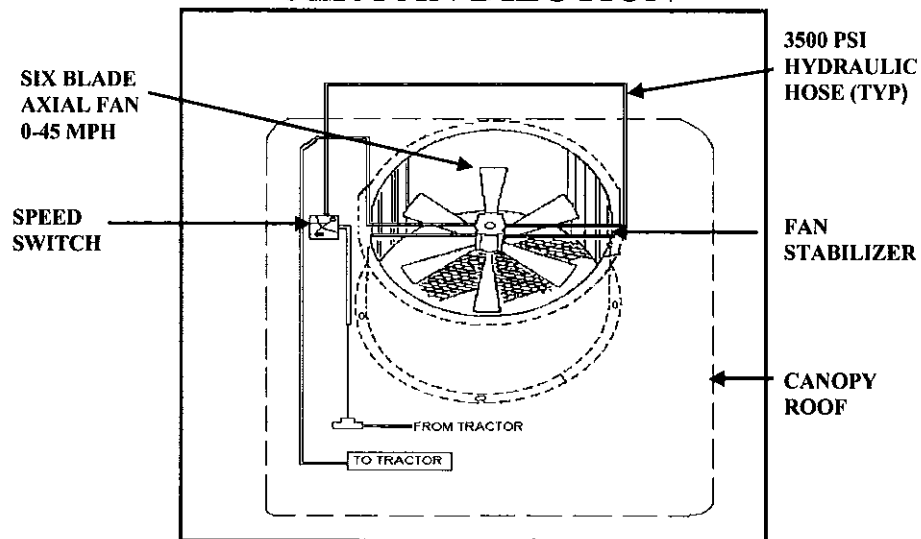
Fan/blower must operate at a minimum of 1,600 rpm and produce a minimum flow rate of 3,000 cubic feet of air per minute.

Application tractor must be equipped with a flexible tube to direct engine exhaust fumes away from the air intake of the fan to an area behind the tractor and away from the person involved in the application.

(System not required if application conforms to application method 2Bii, 3Bii, 4, or 5Bii.)

FUMIGATION METHODS

AIR FAN DILUTION



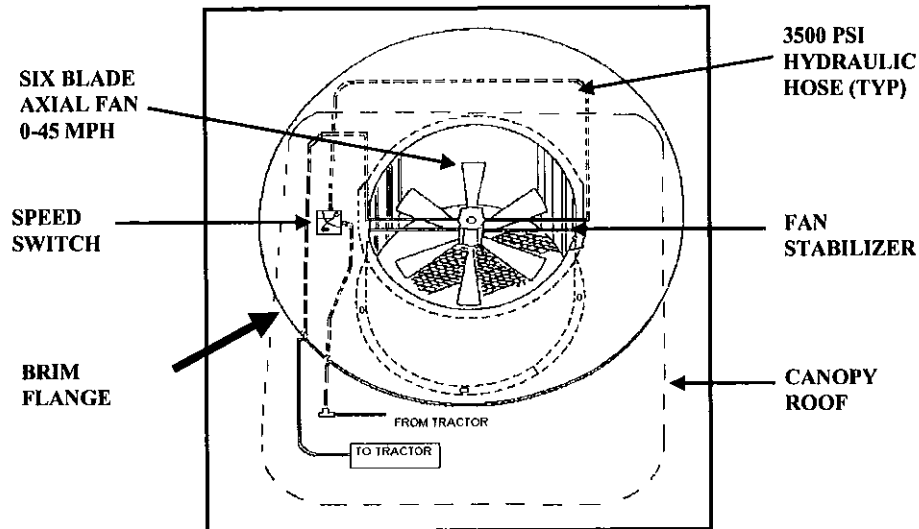
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FUMIGATION METHODS

AIR FAN DILUTION



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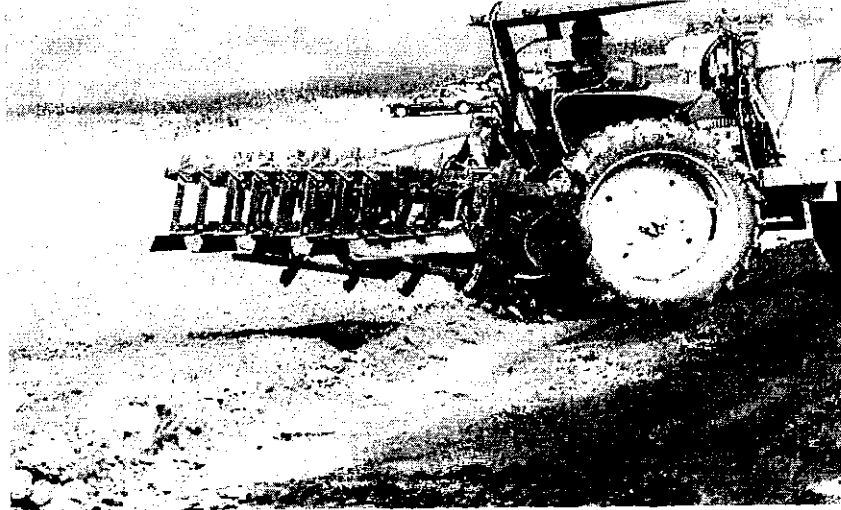
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FUMIGATION METHODS

CHISEL TYPES

- Rearward-curved (swept-back)
- Forward-curved
- Winged (obsolete)

FUMIGATION METHODS REARWARD-CURVED CHISEL

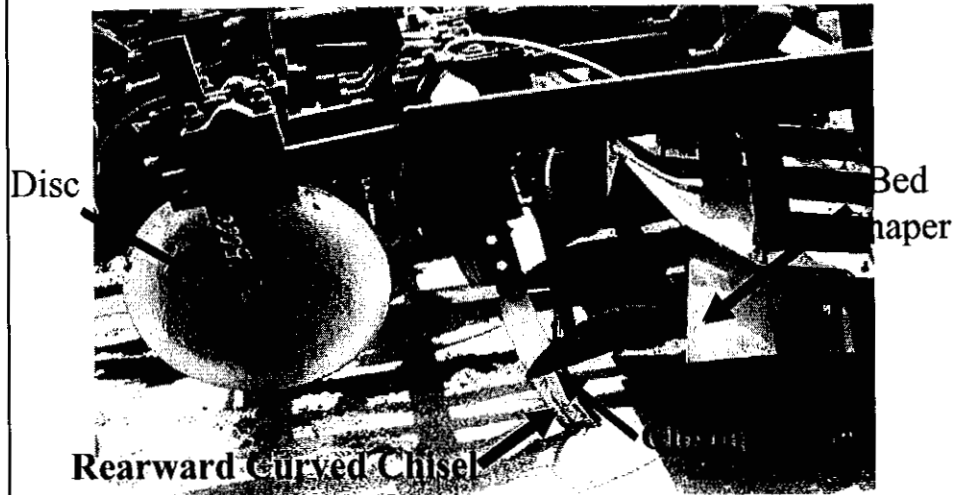


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FUMIGATION METHODS REARWARD-CURVED CHISEL



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FUMIGATION METHODS FORWARD-CURVED CHISEL



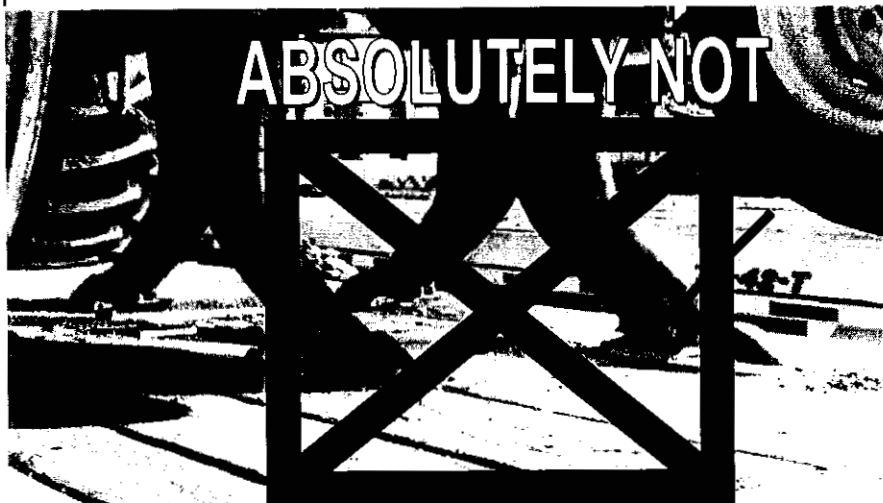
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Methods include Non-tarp/Deep/Broadcast & Tarp/Deep/Broadcast

FUMIGATION METHODS WINGED CHISEL



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When winged chisels are found during an inspection, stop the application and issue a Cease and Desist Order.

This is non-tarp/deep/broadcast

FUMIGATION METHODS NON-TARP/SHALLOW/BED

- Maximum rate: 200 pounds/acre
- Air fan dilution system required on the application tractor
- Rearward-curved chisel used with:
 - Closing shoes and bed shaper, or closing shoes and compaction roller; and
 - Chisel injection points positioned beneath and ahead of the closing shoes

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3CCR 6450.3(a)(1)

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There are 6 methods.

FUMIGATION METHODS NON-TARP/SHALLOW/BED

- Injection depth 10 to 15 inches
- Injection spacing 40 inches or less
- Do not disturb soil for 3 days (72 hours) following completion of the injection
- REI 3 days (72 hours)

3CCR 6450.3(a)(1)

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The injection depth to preformed beds must not be below the bed furrow.

FUMIGATION METHODS

NON-TARP/DEEP/BROADCAST

- Maximum rate: 400 pounds/acre
- Forward-curved chisel
 - Air fan dilution system required on the application tractor and a minimum injection depth of 20 inches
- **or**
 - Closing shoes and compaction roller and minimum injection depth of 24 inches
- Injection spacing 68 inches or less
- Do not disturb soil for 4 days (96 hours) following completion of the injection
- REI 4 days (96 hours)

3CCR 6450.3(a)(2)

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Need to wait 24 hrs and then cut tarp

FUMIGATION METHODS

TARP/SHALLOW/BROADCAST

- Maximum rate: 400 pounds /acre
- Application shall be made using either:
 - Air fan dilution system on application tractor, and a plow consisting of horizontal v-shaped blades
 - or**
 - Rearward-curved (swept-back) chisels, closing shoes, and compaction roller
- Injection depth shall be between 10 to 15 inches

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3CCR 6450.3(a)(3)

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Tarpaulin/Shallow/Broadcast-Method 4 and 5(Nobel), Method 6-Rearward Chisel

- A. Application rate shall not exceed 400 pounds of methyl bromide per acre.
- B. Application shall be made using either:
 - 1. An air dilution fan system on the application tractor, and with a plow consisting of horizontal v-shaped blades mounted by a vertical arm to a tool bar. The fumigant shall be injected laterally beneath the soil surface. The shovels used to open and close the soil over the leading edge of the tarpaulin shall be equipped with 2 conventional vertical shanks on each end of the tool bar; or
 - 2. Rearward-curved chisels, closing shoes, and compaction roller
- C. Injection depth shall be between 10 to 15 inches.

FUMIGATION METHODS TARP/SHALLOW/BROADCAST

- Injection spacing 12 inches or less
- Tarp laid simultaneously by application tractor
- Tarp cut after 5 days (120 hours)
- Remove tarp 24 hours after cut
- REI:
 - Starts at injection
 - Ends after tarp removal
 - Minimum of 6 days (144 hours)

3CCR 6450.3(a)(3)

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Chisel spacing shall be 12 inches or less.

The tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin laying equipment mounted on the application tractor.

The tarpaulin shall not be cut until a minimum of 5 days (120 hours) have elapsed since the fumigant was applied to the application block. This time period starts at the end of the injection and only applies to the acreage completed in a 24-hour period.

Tarpaulin removal may begin no sooner than 24-hours after tarpaulin cutting has been completed.

Restricted entry interval shall begin at start of injection and end at completion of tarpaulin removal and shall be at least 6 days (144 hours).

REI will not expire until tarp is cut (no option not to cut tarp).

FUMIGATION METHODS

V-SHAPED BLADES

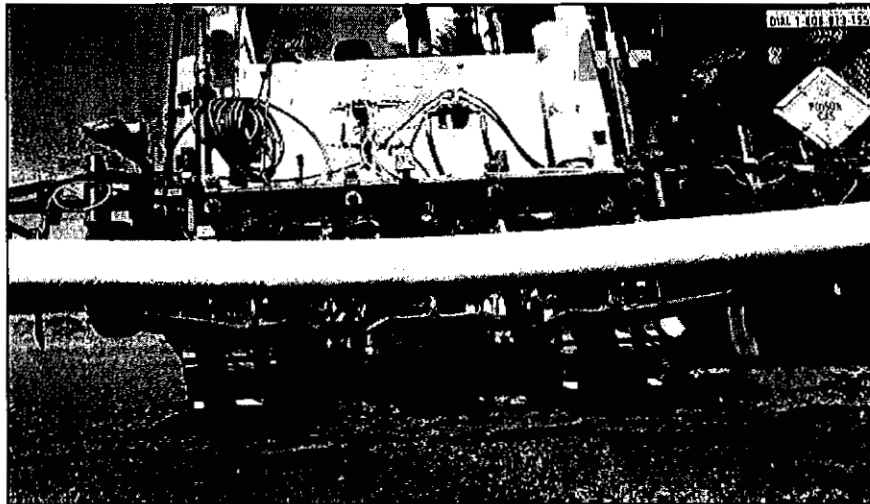
Example: modified Nobel Plow



This method is tarp/shallow/broadcast

FUMIGATION METHODS

MODIFIED NOBEL PLOW



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The Modified Nobel Plow has been modified even further as shown by this rig. The wings of the center plow have been cut down as well as the inner wing on the outside plows. This rig is used for application made for field grown nursery stock.

This is tarp/shallow/broadcast.

FUMIGATION METHODS

TARP/SHALLOW/BED

- Maximum rate: 250 pounds / acre
- Rearward-curved (swept-back) chisels shall be used with either:
 - Closing shoes and compaction roller or,
 - Bed shaper or,
 - Combination bed former and bed shaper
- Injection depth: 6 - 15 inches
- Injection spacing: 12 inches or less

3CCR 6450.3(a)(4)

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Closing shoes and compaction roller. The closing shoes shall cover the chisel marks with soil just ahead of the compaction roller, and the tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor; or

Bed shaper. The chisels shall be placed ahead of the shaper with the injection point under the bed shaper, and the tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor; or

Combination bed former and bed shaper. The chisels shall be placed between the bed former and the bed shaper. The tractor with the tarpaulin-laying equipment shall immediately follow the application tractor.

The Injection depth to preformed beds must not be below the bed furrow.

FUMIGATION METHODS

TARP/SHALLOW/BED

- Tarp options:
 - **Cut and remove**: cut no sooner than 5 days (120 hrs), remove after 24 hrs, and REI expires after removal (6 days)
 - **Cut only**: cut no sooner 5 days, REI expires 48 hrs after cutting (7 days)
 - **Tarp undisturbed**: REI is 14 days, and test less than 5 ppm

3CCR 6450.3(a)(4)

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Cutting the tarp to make roads is not allowed because it is not considered aeration. Once the tarp is cut and aerated, then the operator of the property can make roads

FUMIGATION METHODS

TARP/SHALLOW/BED

WHAT IS WRONG WITH THIS PICTURE ?



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What's wrong with this picture?

2 peoples are walking on the bed during the application. Only the co-pilot can work in the field being treated. The end shovelers can only work at the ends of the treated field

FUMIGATION METHODS

TARP/DEEP/BROADCAST

- Maximum rate: 400 pounds / acre
- Forward-curved chisels used with either:
 - Air fan dilution system on application tractor
 - or**
 - Closing shoes and compaction roller
- Injection depth: minimum of 20 inches

3CCR 6450.3(a)(5)

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Closing shoes and compaction roller. The closing shoes shall cover the chisel marks with soil just ahead of the compaction roller, and the tarpaulin shall be laid down simultaneously (with fumigant injection) by tarpaulin-laying equipment mounted on the application tractor

FUMIGATION METHODS

TARP/DEEP/BROADCAST

- Injection spacing: 66 inches or less
- Tarp laid simultaneously by application tractor
- Tarp cut after 5 days (120 hours)
- Remove tarp 24 hours after cut
- REI:
 - Starts at injection.
 - Ends after tarp removal
 - Minimum of 6 days

3CCR 6450.3(a)(5)

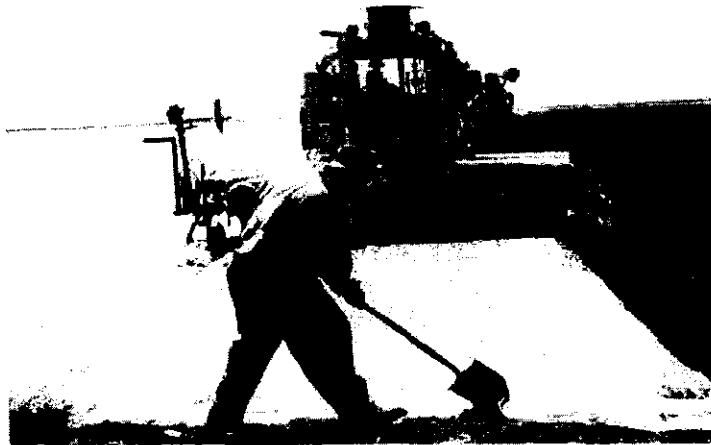
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FUMIGATION METHODS

TARP/DEEP/BROADCAST



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These workers are usually employees of the operator of the property who is responsible to supply required PPE.

The following is a list of the label requirements for several methyl bromide products:

AmeriBrom, Inc	57-43 Preplant Soil Fumigant	EPA Reg # 8622-40
	98-2 Preplant Soil Fumigant	EPA Reg #8622-12
	67-33 Preplant Soil Fumigant	EPA Reg #8622-13
	75-25 Preplant Soil Fumigant	EPA Reg #8622-15

"Applicators and other handlers must wear: Full face shield or safety glasses with brow and temple shields when handling the liquid product (Do NOT wear goggles.)"

Great Lakes	Terr-O-Gas 67	EPA Reg #5785-24
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"Applicators and other handlers must wear: Full face shield or safety glasses with brow and temple shields when handling the product (Do NOT wear goggles.)"

TriCal, Inc.	Tri-Con 57/43 Preplant Soil Fumigant	EPA Reg #11220-4
	Tri-Con 45/55 Preplant Soil Fumigant	EPA Reg #11220-11

"Applicators and other handlers must wear: Full face shield or safety glasses with brow and temple shields when handling liquid product (Do NOT wear goggles.)"

FUMIGATION METHODS

DRIP SYSTEM-HOT GAS

- Maximum rate: 225 pounds / acre
- Injection depth: 1 inch
- Disconnect drip system from the water supply
- Bury all fittings and emitters 1 inch
- Check for blockage and leaks using air or water

3CCR 6450.3(a)(6)

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The end of each drip tubing shall be placed under the tarpaulin prior to introduction of the fumigant.

FUMIGATION METHODS

DRIP SYSTEM-HOT GAS

Prior to fumigation:

- Place and secure tarp
- Inspect tarp for tears, holes
- Pressure test above ground fittings - 50 psi
- Use compressed air, water or nitrogen gas
- If using air or nitrogen, use soap solution to check for leaks
- Purge system of water using pressurized gas

3CCR 6450.3(a)(6)

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All apparent leaks shall be eliminated prior to the fumigation.

All drip tubing with emitters connected to the distribution manifold not covered by the tarpaulin shall be sealed to prevent fumigant loss through the emitters.

FUMIGATION METHODS

DRIP SYSTEM-HOT GAS

Prior to disconnect:

- Purge MeBr from lines
- Pinch off drip line
- Disconnect tubing and secure
- Purge system of fumigant at end of day

3CCR 6450.3(a)(6)

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FUMIGATION METHODS

DRIP SYSTEM-HOT GAS

- Use positive shut-off fittings for heat exchanger
- Handlers shall wear eye protection specified on the label when working with manifold or tubing containing fumigant under pressure
- REI: 3 options: cut and remove, cut only, or tarp undisturbed

3CCR 6450.3(a)(6)

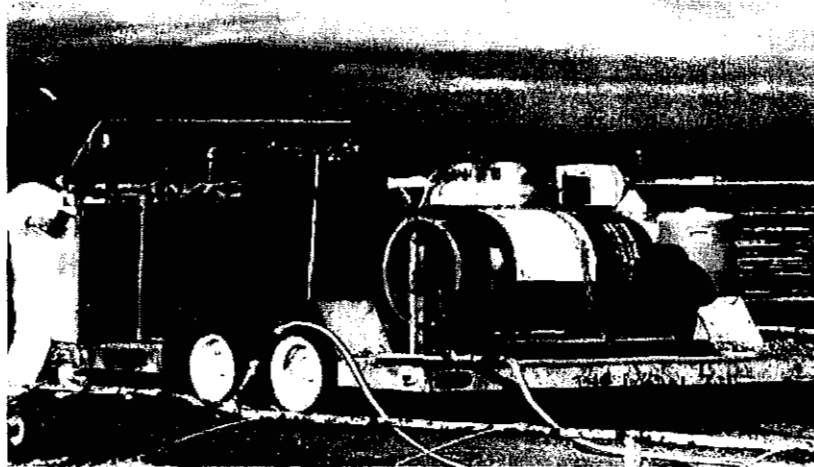
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FUMIGATION METHODS

DRIP SYSTEM-HOT GAS



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This Hot Gas application is commonly used for bell peppers, tomatoes, and seedless watermelons. Be careful during your inspections but do not hesitate to ask the applicator to demonstrate the equipment. Notice the decontamination facilities, heating unit and the personal protective equipment being used by the applicator

FUMIGATION METHODS

DRIP SYSTEM-HOT GAS



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After the methyl bromide has been applied and the lines have been purged, the lines are folded and tied to prevent leakage. This is still considered part of application process and the applicator is required to wear personal protective equipment which includes protective eyewear.

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WORKER SAFETY REQUIREMENTS EXPOSURE RECORDS

- For all handlers: application, aeration, tarp repair and removal
- Include: handler's name, activity, date, duration, EPA registration number, brand name
- Maintain for two years at central location

3CCR 6784(b)(2)

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As with the handling of any pesticide, training is required prior to use as per 3CCR 6724.

As in previous field fumigation regulations, at least two trained employees must be present during the introduction of the fumigant and the removal of tarps.

New requirement to track work hour limitations.

Records shall be made available to CAC upon request.

WORKER SAFETY REQUIREMENTS

NON-TARP/SHALLOW/ BED

- **WORK HOURS:**
 - Driver: 4 hrs/24 hours

3CCR 6784

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Work hours are limited to assure that workers will not exceed 210 ppb of MeBr in 24 hour period

These restrictions apply from the beginning of the application to the expiration of the REI

WORKER SAFETY REQUIREMENTS

NON-TARP/DEEP/ BROADCAST

- WORK HOURS:
 - Driver: 4 hrs/24 hours

3CCR 6784

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Handler

driver: operating application equipment

copilot: observing the overall operation, checking tarpaulin placement, changing cylinders

shovler: assisting with covering the tarpaulin at the end of the rows

tarp cutters and removers

WORKER SAFETY REQUIREMENTS

TARP/SHALLOW/BROADCAST

- **WORK HOURS:**

- Driver: 4 hrs/24 hrs
- Copilot, shoveler: 3 hrs/24 hrs
- Cutter: 4 hrs/24 hrs
- Remover: 7 hrs/24 hrs

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Driver: operating application equipment

Copilot: observing the overall operation, checking tarpaulin placement, changing cylinders

Shovelers: assisting with covering the tarpaulin; shall work only at the ends of the application rows

Tarp Cutters and Removers: cutting and removal shall be discontinued if the presence of gas is readily evident (onset of eye irritation or odor).

Tarps for broadcast fumes shall be cut mechanically (atv or tractor with cutting wheel). Each panel shall be cut lengthwise.

Multiple task employees: When more than one is performed by an employee, the shorter time requirement applies. Example: An employee works for 2 hours as a copilot, then switches to driver. He would only be able to work as a driver for 1 hour

WORKER SAFETY REQUIREMENTS

TARP/SHALLOW/BED

- **WORK HOURS:**
 - Driver: 4 hrs/24 hrs
 - Copilot, shoveler: 4 hrs/24 hrs
 - Cutter: 4 hrs/24 hrs
 - Remover: 7 hrs/24 hrs

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WORKER SAFETY REQUIREMENTS

TARP/DEEP/BROADCAST

- **WORK HOURS:**
 - Driver: 4 hrs/24 hrs
 - Copilot, shoveler: 3 hrs/24 hrs
 - Cutter: 4 hrs/24 hrs
 - Remover: 7 hrs/24 hrs

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WORKER SAFETY REQUIREMENTS

HOT GAS APPLICATION

•WORK HOURS:

- Applicator: 2 hrs/24 hrs
- Cutter: 4 hrs/24 hrs
- Remover: 7 hrs/24 hrs

3CCR 6784

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WORKER SAFETY REQUIREMENTS

WORK HOURS ADJUSTMENT

- Work hours may be increased if actual application rate is less than the method maximum rate

Adjusted work hours = (max rate ÷ actual application rate) x max hrs per 24 hrs

3CCR 6784(b)(6)

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The work hour adjustment is allowed for Drivers, Copilots, and Shovelers, only

Example

If Rate is 350 lbs/ac of 67% MeBr then actual rate is 234.5 lbs/ac and if Max rate is 400 lbs/ac then the adjusted work hours= $400/234.5 \times 4$ Hours= 6.8 hours or just over 6 3/4 hours

TARP REPAIR REPAIR RESPONSE PLAN

- Include in worksite plan
- Identify parties responsible for detection and repair
- Decision to repair made by a certified applicator:
 - Permittee
 - Authorized representative
 - Pest control operator

3CCR 6784(b)(6)

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i.e Who is responsible for checking for holes or other problems with the tarp?

The Tarp Repair Response Plan is included in the worksite plan provided to the CAC, and it identifies the responsibilities of the PCB and/or permittee regarding detection and repair activities. The plan is approved in the permit process.

TARP REPAIR

REPAIR RESPONSE PLAN

Decision factors:

- Hazards to public, residents, or workers
- Proximity to occupied structures
- Timing of damage
- Size of damaged area and feasibility of repair
- Environmental factors (e.g. wind speed/direction)

3CCR 6784(b)(6)

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The plan must state with specificity the situation when the tarps must be repaired.

Such situations shall be based on these factors

TARP REPAIR REPAIR RESPONSE PLAN

Repair requirements :

- Testing must be done by certified applicator wearing SCBA
 - Less than 5 ppm, 1 hour without SCBA
 - 5 ppm or more, wear SCBA

3CCR 6784(b)(6)

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A testing device as specified by the labeling shall be used

FIELD POSTING

- Prior to fumigation
- Until the end of REI
- No fieldworker entry until REI elapsed and signs removed

3CCR 6776(f)

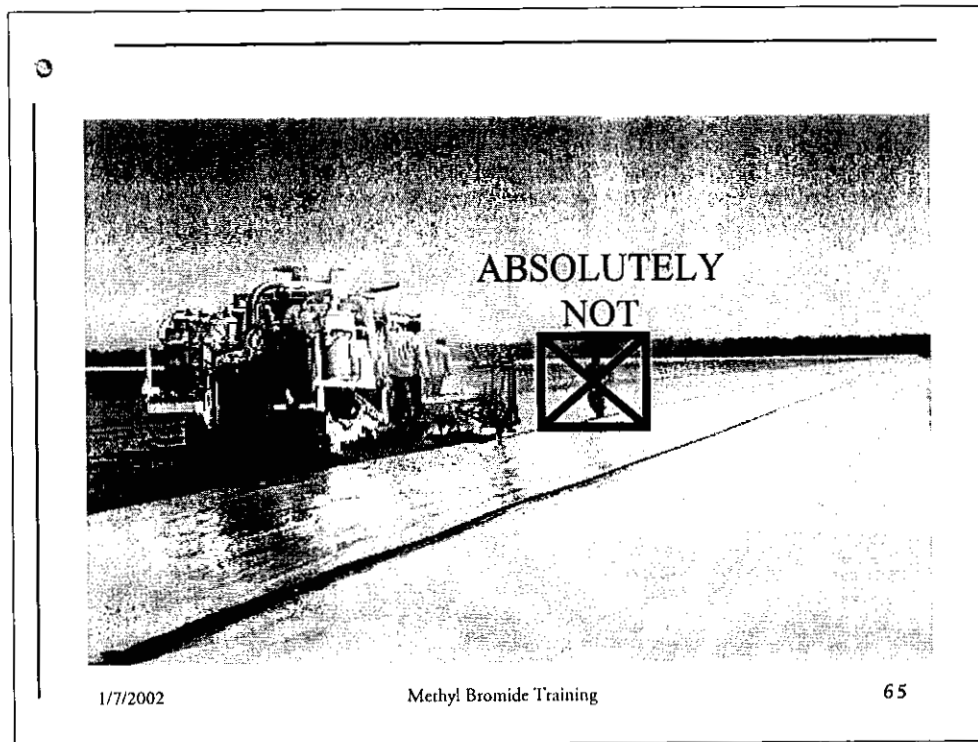
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The requirements apply to the perimeter of the treated area.

The inner buffer zone posting is a separate requirement.



Workers and inspectors are not permitted in the treated area during the application. Only the applicator and co-pilot are allowed to work in this area

CEQA/PERMITS

- Assembly Bill 3765: alternative to Environmental Impact Reports for application of Restricted Materials
- Justification of equivalency based on state pesticide regulatory program:
 - Registration
 - Licensing
 - Monitoring of pesticide health and environmental effects
 - Regulation of use through the permit system

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Critical provision: designation of Restricted Materials and the permit process

CEQA: California Environmental Quality Act

AB 3765 = Section 21080.5 of the Public Resource Code

CEQA/PERMITS

The permit process includes provisions for:

- Implementation of mitigation measures as required for health and environmental safety
- Consideration of alternative methods and materials
- Denial when hazards cannot be mitigated
- Due process = review and appeal

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Emphasize due process

In order to properly mitigate hazards, the CAC must consult with relevant agencies on a quarterly basis as required by CCR

CEQA / PERMITS

PERMIT REVIEW

- “Any interested person may request the CAC to review his or her action in issuing, refusing, revoking, suspending or conditioning a permit to use or possess a restricted material” CFAC Section 14009 (a)
- ENF Letter 98-030
- DPR Executive Office Letter 97-5

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“An interested person does not have to live in proximity to the site. In an extreme case, someone outside your county could request a permit review.”

Ex. Office Letter 97-5

CEQA/PERMITS

PERMIT REVIEW

A request for a restricted material review shall be submitted in writing to the CAC by any interested person and include:

- Location of property to be treated
- Location of persons and property affected
- Name of the restricted material
- Name and address of the operator of property to be treated
- other info deemed relevant by CAC or filer

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CEQA/PERMITS

PERMIT REVIEW

CAC will review request and issue a decision within 10 days of receipt

- Undue hazard
- Feasible alternatives
- Mitigation measures
- Local conditions
- Likelihood that permit conditions will be violated

Decisions may affirm, modify or cancel permit

CEQA/PERMITS

PERMIT APPEAL

- CAC Decision may be appealed by a directly affected person to the Director
- Director will act on appeal within 10 days of receipt
- Director may stay permit until appeal is complete
- Any interested person can request that the appeal hearing be held in a public place

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3CCR Section 6443(i) sets a precedent for defining a directly affected person. With regard to phenoxy use in timberland a directly affected person was limited to a person with a residence, property, crop or water supply that was within one half mile of the treated area. Portable property such as a trailer were exempted from this determination

The director will determine whether or not the requestor is a directly affected person

CEQA/PERMITS

PERMIT APPEAL

Appeals limited to the following issues:

- Is proposed permit use consistent with label and regulations?
- Did CAC properly consider local conditions?
- Did CAC abuse his or her discretion?

Section 14006.5



END

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